

REMARKS

Claims 1-15, 22-25 are pending in this application. Claims 22-24 are treated by the Examiner as withdrawn, although Applicants again object to this characterization. Claims 1, 24 have been amended. New Claim 25 previously was presented as claim 1.

At page 2 of the office action, Claims 1, 6, and 12 have received an objection with regard to $A^{1/2}$. The office action incorrectly states that $A^{1/2}$ is an undefined variable. " $A^{1/2}$ " has the same meaning as "the square root of A" and is merely used to avoid searching for the square root symbol when typing, with no change in meaning. This is a matter of basic mathematics notation. The square root of A is defined at page 9, line 3 as a refractive index distribution constant. See also the formula at page 9, line 2 in which the square root of A appears. See also page 9, line 7; page 10, lines 6, 16; page 12, line 16; page 13, lines 1, 3, 10, 11, 13, 19; page 14, line 7; page 15, lines 7-8; etc.

At page 2 of the office action, Claims 1, 5-7, 11-12, and 15 have been rejected under 35 USC 103(a) as being unpatentable over US Patent 6,084,994 to Li et al., in view of Kittaka et al. (US 2002/ 0140929 A1). The Examiner's position is that the only difference between the claimed invention and Li is that "Li does not explicitly disclose an angle of the parallel light incident on the optical filter is adjusted by changing a refractive index distribution constant of the first graded index rod lens." (Office action, page 3.) At page 4 of the office action, Claims 2-4, 8-9 and 13-14 have been rejected under 35 U.S.C. 103(a) over a combination of three references: Li, Kittaka and Cearns.

The obviousness rejections are traversed.

The Examiner's position is that the recitation of Applicants' claim 1 of "the replaceable first graded index rod lens being replaceably disposed contacting the optical filter" can be disregarded by the Examiner because "examiner considers the replaceability of the claim recitation occurs during manufacturing process, such as in the case when a defective rod lens is found, the said rod lens is replaced by another operable rod lens." (Office action, page 6.)

In Li, the GRIN is affixed to the optical filter. Li states, "The filter 18 is typically affixed to the GRIN lens 16." (Column 3, lines 39-40.) Evidence rebutting the Examiner's theory that the "affixed" contact in Li can be treated as being of a "replaceably disposed" nature as in Applicants' claim 1 is as follows. First, the very word "affixed"

used by Li teaches away from replaceable contact. Second, the type of “affixed” contact to which Li generally refers may be appreciated, for example, by referring to references in which more specifics are provided, such as U.S. patent no. 6,382,841 to Ryall (Optical Coating Laboratory). There, the filter and GRIN lens are bonded using adhesive.

(Abstract.) See also column 2, line 60+, explaining: “Often these components are attached to each other in a face-to-face configuration and retained in place by means of epoxy or other adhesives applied to the respective faces.” See also U.S. Patent no. 6,704,146 to Wu et al. (Hon Hai Precision Ind. Co., Ltd.): “The GRIN lens and the filter are glued” (abstract).

It must be appreciated that when Li is disclosing that the GRIN lens and the filter are “affixed”, he means that they are epoxied or glued or permanently joined with an adhesive. Epoxied-together or glued-together components cannot fairly and objectively be called “replaceably disposed” next to each other. The express claim language of Applicants’ claim 1 prohibits the very “affixed” contact between the index rod lens and the optical filter that Li discloses.

It is Applicants’ own invention and entirely new to provide for the filter and GRIN lens to be in “replaceably disposed” contact, and it was beyond the thinking of a person of ordinary skill in Applicants’ art to think to change the structural contact between the GRIN lens and the filter in the manner invented and claimed by Applicants.

Therefore, all of Applicants’ independent claims are non-obviousness over Li.

Additionally, Applicants’ claim 1 as amended is further distinguished from Li in that Li fails to teach or disclose the tube recited in Applicants’ claim 1. In Li, there is no tube positioned or of a size such that a rod lens can be pulled-out through the tube, and Li has no indication of having his rod lens removed whether pulled-out through a tube or otherwise.

For simplicity and brevity, Applicants do not comment separately on each dependent claim.

Applicants again refers, in support of the non-obviousness of Applicants’ claims, to the decision of the Federal Circuit Court of Appeals in *In re Deminski*, 796 F.2d 436 (1986) (of which Applicants previously submitted a copy). In *Deminski*, the examiner made a final rejection (which the board affirmed), but the Federal Circuit reversed the part

of the board's decision and ruled favorably regarding patentability of a claimed invention having a removable part, stating:

There is nothing in the prior art references, either singly or in combination, "to suggest the desirability, and thus the obviousness, " of designing the valve assembly so that it can be removed as a unit.

Simply put, Deminski solved the problem of how to remove the valve assembly by designing a compressor with four vertically oriented valve chambers. Each chamber contains a valve assembly which can be removed as a unit through the opening at the top of the valve chamber. Each of the four valve assembly units may be removed relatively easily by lifting vertically with a hoist.

Pocock teaches a pump in which only the valve stem is separately removable and replaceable. The Pocock structure requires the valve pieces to be removed item-by-item, by turning the pump upside down, by using a tool, or by hand. Because the Pocock structure is typically small, Pocock does not address Deminski's problem of how to remove a large and heavy valve assembly as a unit. Instead, Pocock teaches away from the invention of claims 17....

There was no suggestion in the prior art to provide Deminski with the motivation to design the valve assembly so that it would be removable as a unit. The board argues that if Pocock had following the "common practice" of attaching the valve stem to the valve structure, then the valve assembly would be removable as a unit. The only way the board could have arrived at its conclusion was through hindsight analysis by reading into the art Deminski's own teachings.

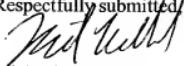
Therefore the Federal Circuit did not permit the claims in which the valves can be removed easily for replacement to stand rejected for obviousness.

Reconsideration and withdrawal of the obviousness rejections are respectfully requested.

In view of the foregoing, it is respectfully requested that the application be reconsidered, that claims 1-15, 22-25 be allowed, and that the application be passed to issue.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

A provisional petition is hereby made for any extension of time necessary for the continued pendency during the life of this application. Please charge any fees for such provisional petition and any deficiencies in fees and credit any overpayment of fees for the petition or for entry of this amendment to Attorney's Deposit Account No. 50-2041 (Whitham, Curtis & Christofferson P.C.).

Respectfully submitted,

Michael E. Whitham
Reg. No. 32,635

Whitham, Curtis, Christofferson & Cook, P.C.
11491 Sunset Hills Road, Suite 340
Reston, VA, 20190
Phone: 703-787-9400
Fax: 703-787-7557